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## POWER ECONOMY -- THE MOST IMPORTANT PROBLEM IN NATIONAL ECONOMY

(Editorial)

In 1949, the fourth year of the postwar Stalin Five-Year Plan, the Party and government put before the country new problems connected with raising the level of all branches of socialist economy, developing new forms of production and improving the living and cultural conditions of the people.

The 1949 plan places great responsibility for the fulfillment of the plan upon enterprises attached to the Ministry of Electric Power Stations. This includes the following increases over 1948: 15 percent in electric power, 58 percent in the volume of construction and installation work; 47 percent in newly installed turbogenerator capacity, 57 percent in new boilers, and 61 percent in new power transmission lines.

The fulfillment of the socialist obligations entered into in 1949 by workers, engineers, and technicians in all branches of national economy depends on the successful efforts of Soviet power engineers. But industrial workers must do their part by efficient utilization of the power supplied.

In the first quarter of 1949, the plan for supplying and allotting power to industry was 100.6 percent fulfilled. During this period, industrial enterprises effected economies in the use of electric power amounting to 243,500,000 kilowatt-hours and 93,153 megacalories in thermal energy.

Quantitative and qualitative changes in socialist economy make improvement of technological processes and maximum mobilization of internal power resources a vital, long-range problem. Because of the extensive mechanization of production, and other developments such as the introduction of new techniques in metal working, electrolysis and electrothermics, welding, electrification of transportation, and employment of high-frequency currents -- all instrumental in raising productivity and improving working conditions -- a great increase in the total output of electric power will be necessary.



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The 1949 plans for saving power, based on computations of the main branches of industry, divide the total annual saving required as follows: 33 percent for the metallurgical industry; 30 percent for the metal-working and machine-building industry, and 11 percent for the chemical industry.

Economies can be effected in the metallurgical industry by the following methods: improvement of technological processes; better timing and preparation of furnace charges; reduction of heat losses by improved insulation; closer adherence to temperature conditions; speed-up in smelting; elimination of unproductive waste of water, compressed air, etc. Of particular importance is the wide use of automatic technological processes and self-regulating mechanisms.

In the machine-building industry, the basic requirements for economy in the use of electric power are: automatizing production; utilizing multiple-cutting tools and multiposition devices; converting from free forging to stamping; combining operations; speeding up cutting procedures; introducing mass-production methods and new methods of electric welding, including ultrashort electric-arc welding; reducing idling time and compressed-air losses, etc. The total savings required may be expressed by the following percentages: 10.5 percent by automatization; 17 percent by improving technological methods; 4 percent by mass production methods; 8.4 percent by reducing losses of water and compressed air; 12 percent by efficient use of equipment; 6.5 percent by utilizing new electric welding processes; 5.2 percent by combining operations; and 4.6 percent by improving thermal processes.

In the chemical industry, economies may be effected by: increasing the efficiency of technological processes; utilizing the heat of chemical reactions; improving equipment -- in particular, introducing new, improved electrolyzers made by Soviet engineers to replace the uneconomical non-Soviet Siemen-Billiter X-2 and X-3 types; raising the temperature of electrolytes; closer adherence to temperature conditions; increased concentration of evaporated alkalis; proper maintenance of regenerative turbines; efficient use of cooling water; introduction of new economical designs for the electric heating of press molds; use of high-frequency currents for heating the press materials, etc.

Data from audit reports for 1948 and the first quarter of 1949 prove the correctness of these statements and show the existence of enormous reserves in this field.

Gains in power economy can be substantiated only by comparing actual consumption with average norms, worked out on the basis of the existing level of production technique, efficient use of equipment, and progressive operating methods. Power economies obtained on the basis of excessive norms show an uncritical approach to the problem of establishing proper standards. Moreover, they do not encourage greater activity in economizing on present resources.

The Gossnab (State Supply Commission) of the USSR found it necessary to revise norms for specific electric power consumption for types of production requiring large amounts of power. As a result, since 1 April 1949, new reduced norms have been put into effect which have stimulated efforts to economize on power. In the course of revision, it was established that the specific norms were excessive and did not reflect the present technical level of production. In fact, they impeded the adoption of successful methods for reducing the consumption of electricity. This shows that approved standards cannot be established permanently, but are variable quantities which must be systematically revised in accordance with new operating methods and modern technical levels, taking into account both increases in production and changes in types of products.

However, this reduction in electric power norms for specific production is only a beginning. It is necessary to supplement and enlarge this beginning and to conduct universal revisions of norms not only by Gossnab but by the industrial ministries as well. Reports on norms of specific electric consumption for 1948 and the first quarter of 1949 show that many norms approved by the ministries and departments cannot be considered efficient or progressive. Numerous instances prove the justice of this position and sharply underline the disadvantages of setting standards for individual industrial ministries.

In 1949, the Ministry of Metallurgical Industry retained the old norms for the Lebyazhe Ore Administration, although savings of over 20 percent had been made during 9 months of 1948 (first quarter, 23.2 percent; second quarter, 24.6 percent; third quarter 21.8 percent; fourth quarter, 10.8 percent). As a result of these excessive norms, savings were still fictitiously high. In January of this year, they amounted to 10.7 percent and in February to 15.05 percent.

In 1949, the Alapayevsk Ore Administration increased its norm from 14 to 17 kilowatt-hours per ton, in spite of the fact that the enterprise operated the whole previous year at a lower norm and only in December exceeded this norm because of a decrease in ore extraction. In reality, the norm should have been reduced by 15 or 20 percent. This was confirmed by actual specific consumption this year (February, 12.06 kilowatt-hours per ton).

In 1949, at the Andreyev Plant, the norm in force for rolling pipes was 210 kilowatt-hours per ton while the actual consumption was 185.7 in January and 187.7 in February.

As a result of excessive norms, the Pyshma Refractory Material Plant in the fourth quarter of 1948 showed a 22.4-percent economy in power. Nevertheless, this norm was not reduced in 1949 and savings for February amounted to 37.2 percent.

In the Kalinin Mechanical Plant of Glavmashtekstil'detal' of the Ministry of Light Industry, the norm for 1949 was increased 4.7 percent over that of 1948. As a result, the plant shows a high percentage of savings for 1949: 18 percent in January, 22 in February.

As a consequence of excessive norms, the Nizhne-Dneprovsk Plant for silicate brick showed savings of more than 50 percent in 1948; the "Svetofor" Plant, 22 percent. Still these norms remained unchanged in 1949. For example, the approved norm was 40 kilowatt-hours per 1,000 pieces, while the actual consumption was 24 kilowatt-hours per 1,000.

In 1948, the norm for the Dneprodzerzhinsk Concrete Plant was approximately 40 percent too high, yet it was retained in 1949. In spite of a progressive average specific consumption of 6.5 kilowatt-hours per ton, the norm for slag brick and ferroconcrete for 1949 remained at its earlier level of 10.9 kilowatt-hours per ton.

In the Verkhne-Serginskiy Machine-Building Plant of the Ministry of the Petroleum Industry the basic norm for 1948 was increased for no good reason from 47 to 50 kilowatt-hours per 1,000 rubles of production. Hence, the factory regularly showed a fictitious saving, amounting to 22.3 percent for 1948, 16.2 for January 1949, and 24.8 for February.

As early as 1948, the Kaganovich Plant, Ministry of Machine and Instrument Building, carried out a number of measures to save power and attained a specific consumption of electric power for the SPVK automatic machine of 1,180 kilowatt-hours, when the norm was 1,550. However, the ministry did not study the changes made in the plant and mechanically retained the old norm although it was clear that it did not coincide with the new operating conditions.

In 1949, the Ministry of Construction and Road-Machinery Building authorized the Kovrov Excavation Plant to use a completely baseless norm which was double the actual specific consumption for January and February of this year. The following April, only after instructions from the State Inspectorate for Industrial Power Engineering and Power Control (Gosenergonadzora) did the Ministry correct its error and approve a new norm of 230 instead of 520 kilowatt-hours per 1,000 rubles.

The norms for electric power consumption authorized by the Ministry of the Shipbuilding Industry for one plant provided for the following "savings" of energy: 23.4 percent in January and 26 in February. At present, the consumption of electric power is standardized for this enterprise on the basis of 1,000 rubles although it is possible to establish the norm on the basis of a natural unit of production.

The examples cited demonstrate: (1) that certain ministries are not free from an antistate, departmental approach to preparing and authorizing norms for specific electric power consumption and, (2) that control organs, especially plant inspectors of power sales, are still not keeping track of consumption, and have too indulgent an attitude toward excessive norms.

Following the example set by Gossnab in revising its nomenclature, the existing norms approved by ministries and departments must be revised.

Those who seek to insure themselves by using excessive norms to show savings without effort must be exposed. The fight must be redoubled against misappropriators of power and those who consume more power than the authorized standards permit. It is not possible to tolerate a situation in which individual enterprises, far from doing their part in economizing, regularly exceed the approved norms of specific consumption. Let us cite a few pertinent examples.

The Ministry of Heavy Machine Building, in introducing a number of organizational and technical measures at enterprises supplied by the Mosenergo network, was obliged to ensure a 5-percent reduction of electric power consumption. On the whole, all the enterprises more than fulfilled the requirements and the actual saving, during 1948, in the ministry amounted to 6.1 percent. However, in 1948, the Venyukov Armature Plant of this ministry, instead of economizing, was permitted an overconsumption of power amounting to 3.5 percent in July; 7.8 in August; 7.1 in September; 5.5 in November; 3.6 in December; and 3.3 in January 1949. This excess was due chiefly to inefficient operation of steel-smelting furnaces because of poor organization in preparing furnace charges, the inadmissibly long time taken for charging, and insufficient insulation of the furnaces (the external temperature of the walls reaching 130 to 140 degrees centigrade).

These deficiencies could be eliminated without special work or great expense by the manpower and facilities of the plant itself. But the Plant Administration and, in particular, Chief Power Engineer N. I. Sigal, became accustomed to poor work and blamed the cause of the excess consumption on the reduced norms. The indefensibility of this explanation was proved by the plant inspectors for electric power, who upon investigating the factory on 5 March of this year, organized a smelting test in which properly prepared furnace charges took only 28 minutes, as compared with the previous charging time of 50 to 70 minutes. The indefensibility of blaming the "reduced" norms was also shown by the fact that in March, under the very same consumption conditions, the plant was able to save 13,000 kilowatt-hours of electric power consumption.

The Ministry of the Textile Industry did not do its full share in saving power in 1948 with regard to the Moscow group of enterprises, since it permitted consumption of excess electric power which would have sufficed to process 2 million meters of cotton cloth.

The Dorokhov group of textile plants showed an overconsumption of 148,000 kilowatt-hours in 1948. On investigation, it was established that the causes of this excess were the low efficiency of the looms, untimely and unsatisfactory equipment repairs, excessive breakage of the warp, poor lubrication and cleaning of machinery, etc.

In 10 months of 1948, the Likin Spinning and Weaving Mill showed an excess consumption of 731,000 kilowatt-hours. As a result of measures instituted in November and December, the mill not only adapted its production to reduced norms, but even managed to effect some economies. Nevertheless, in the first quarter of 1949, the Chief Directorate for the Moscow Cotton Industry raised the specific norms 5 percent -- encouraging poor work in the mill -- without taking into consideration the level reached in the last months of the year.

The Alaverd Copper Smelting Plant, an enormous consumer of electric power, regularly exceeded the authorized norms because of inefficient technological processes, poor charging, low electrolyte temperatures, a high percentage of defective goods, excessive use of power for subsidiary requirements, etc. Furthermore, from the standpoint of power, the plant carried on inadmissible operations such as drying sludge by electricity instead of using steam driers. As a result of such wasteful practices, the plant showed an overconsumption of 1,390,000 kilowatt-hours in 1948 and 675,000 in the first quarter of 1949. Unfortunately, A. M. Sarkisyan, the plant director, P. L. Feofanov, chief power engineer, and M. N. Sarukhanyan, director of the Armmed' Trust, have as yet taken no decisive steps to stop this wasteful consumption nor have they carried out the provisions of the Act of 15 March 1949 on plant electric-power inspection. Even the ministry did not pay much attention to inspections, although the act was duly dispatched by the Deputy Minister of the Metallurgical Industry, I. V. Arkhipov.

The Azneft' enterprises regularly wasted power. The following trusts permitted particularly large excesses: Azizbekovneft' (manager, Mazanov); Molotovneft' (manager, Madera); Ordzhonikidze-neft' (manager, Astratsaturov). This overconsumption is due to the lag in converting small-output compressor wells to deep-pump operation, the poor system of supplying compressed air from the compressor station to the air distributors, air leakages because of poor hermetic sealing, great losses in high- and low-voltage lines because of inefficient methods and the distance between transformer substations and the load center. Power is also wasted by heating the compressed air entering the wells in electric instead of gas furnaces. In an industry which has such large stocks of gas fuel, this is a wasteful practice from every viewpoint.

Beside the above-mentioned causes of waste, there is another factor contributing to deficiencies in power supply, namely, the unsatisfactory state of the power industry, in particular, the lack of reliable protective relays.

As a result of their neglect of economy and inadequate utilization of equipment, the enterprises of the Azneft' Combine (director, Karasev; chief power engineer, Rasul Zade) wasted 92,133,000 kilowatt-hours in 1948 and about 18 million in the first quarter of 1949.

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By waging a continuous struggle to eliminate wasteful practices and to see that each kilowatt-hour of electric power and kilogram of steam are accounted for, and by introducing progressive standards, workers in power stations, in industry, and in transport activities can ensure early fulfillment of the postwar Stalin Five-Year Plan with a minimum expenditure of power resources. The main responsibility of industrial workers, at present, is to make full use of valuable experience in this connection. This will permit the attainment of new levels of efficiency in the utilization of electric power and mobilization of new power reserves, keeping in mind that power economy is the most important task in the national economy.

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